

DESCRIPTION OF THE COURSES

- Course code: ELR1162
- Course title: HIGH VOLTAGE ENGINEERING 2
- Language of the lecturer: Polish

<i>Course form</i>	<i>Lecture</i>	<i>Classes</i>	<i>Laboratory</i>	<i>Project</i>	<i>Seminar</i>
<i>Number of hours/week*</i>			2		
<i>Number of hours/semester*</i>			20		
<i>Form of the course completion</i>			<i>laboratory</i>		
<i>ECTS credits</i>			2		
<i>Total Student's Workload</i>			60		

- Level of the course (basic/advanced): basic
- Prerequisites: Materials engineering fundamentals, High Voltage Engineering I.
- Name, first name and degree of the lecturer/supervisor: Janusz Fleszyński, professor D.Sc., Ph.D, B.Eng.
- Names, first names and degrees of the team's members:
Adam Tymań, Ph.D. B.Eng.
Krystian Chrzan, Ph.D, B.Eng.
Maciej Jaroszewski, Ph.D, B.Eng.
Krzysztof Wieczorek, Ph.D, B.Eng.
- Year:....III..... Semester:.....5.....
- Type of the course (obligatory/optional):
- Aims of the course (effects of the course):
Acquiring of basic knowledge and practical skills in high voltage engineering.
- Form of the teaching (traditional/e-learning):
- Course description:
Laboratory introduces into problems of high voltage testing and measuring techniques. It explains testing systems, methods of high voltage measuring and selected techniques of high voltage insulation testing. Tutorials are also experimental illustration of many topics presented during lectures especially in the range of discharges development in air and electric strength of air insulating systems.
- Lecture:

<i>Particular lectures contents</i>	<i>Number of hours</i>
1.	
2.	
3.	
4.	
5.	
6.	
7.	

- Classes – the contents:

- Seminars – the contents:
- Laboratory – the contents:

During laboratory following classes are planed to be done:

1. Testing set-up of high alternating voltage.
 2. Testing of wave propagation in model systems.
 3. Generation and measuring of high de voltage.
 4. Electric strength of air at 50 Hz alternating voltage in uniform and weak uniform electric field.
 5. Electric strength of air at 50 Hz alternating voltage in no uniform electric field.
 6. Surface electric strength of insulation systems in air at alternating voltage.
 7. Measurements of dielectric losses, ionization voltage and partial discharges in insulating systems of high alternating voltage.
 8. Voltage distribution on insulator chain.
- Project – the contents:
 - Basic literature:
 1. Z. Flisowski, Technika Wysokich Napięć, WNT, Warszawa, 1998 i wydania następne
 2. Praca zbiorowa, Laboratorium wysokonapięciowe w dydaktyce i elektroenergetyce,
 - Additional literature:
 1. Praca zbiorowa po redakcją Z. Pohla, Napowietrzna izolacja wysokonapięciowa, Oficyna Wydawnicza Politechniki Wrocławskiej, Wrocław, 2003,
 2. Praca zbiorowa po redakcją R. Kosztaluka, Technika badań wysokonapięciowych, t. 1, WNT, Warszawa, 1985,
 3. Praca zbiorowa po redakcją H. Mościckiej-Grzesiak, Inżynieria wysokich napięć w elektroenergetyce, Wydawnictwo Politechniki Poznańskiej, t.1 - 1996, t.2 - 1999.
 - Conditions of the course acceptance/creditation: All laboratory classes credited.

* - depending on a system of studies